

Title (en)

Porous hollow fiber membranes and method of making the same

Title (de)

Poröse Hohlfasermembranen und Verfahren zu ihrer Herstellung

Title (fr)

Membranes poreuses sous forme de fibres creuses et leur procédé de fabrication

Publication

EP 1166859 A2 20020102 (EN)

Application

EP 01113688 A 20010620

Priority

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- JP 2000190739 A 20000626

Abstract (en)

A porous hollow fiber membrane having a particle cutoff within the range of 1 to 10 μm and a pure water permeate flow equal to or higher than 30,000 L/m²/hr/100 kPa. This porous hollow fiber membrane can be prepared by a method including, while a spinning dope containing a base polymer as a material for forming the porous hollow fiber membrane, an additive used for facilitating a phase separation of the spinning dope, a solvent compatible with both the base polymer and the additive and a mass of microparticles insoluble to the compatible solvent and uniformly dispersed in a liquid medium and having an average particle size within the range of 1 to 20 μm , and a coagulating liquid for forming the hollow fiber membrane is used, a step of forming the hollow fiber membrane according to a dry-wet spinning method or a wet spinning method, and a step of extracting and removing the microparticles by immersing the hollow fiber membrane, which has been spun, into an extracting solution effective to dissolve the microparticles, but ineffective to dissolve the base polymer. <IMAGE>

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Cited by

EP2803403A1; US7279215B2; EP2913100A1; EP2913099A1; CN115369505A; EP2913097A1; US9764292B2; US6939392B2; US9610548B2; EP2913098A1; AU2014277784B2; US9561473B2; US9737860B2; US9776142B2

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